TRADITIONAL BALSAMIC VINEGAR OF MODENA P.D.O.

Traditional Balsamic Vinegar of Modena, hereafter referred to as ABTM, is one of the oldest and without doubt, the most typical product of the agricultural food industry in the province of Modena. It is not known for sure how it originated and some say it was invented by accident: as Traditional Balsamic Vinegar derives from the natural acetous fermentation, followed by a long ageing period, of boiled grape must, it seems probable that the product developed by chance through the reaction of these microbiological processes in containers of boiled grape must, (called “saba”, a traditional ingredient in local cuisine, already used in Roman times as a sweetener with honey), followed by the intervention of Man who set up the production techniques still used today.

“Traditional Balsamic Vinegar of Modena is obtained from boiled grape must, matured through slow acidification, the natural fermentation and progressive concentration over a long drawn-out ageing period, carried out in a series of vessels of different woods, without the addition of any other substance. It has a rich shiny dark brown colour and a perfect fluid syrupy density. The characteristic complex bouquet is pungent and evident but with a pleasant and harmonic acidity. With a traditional and unique well-balanced sweet and sour taste, is generously full-bodied, pungent with velvety tones, in agreement with its distinctive olfactory characteristics” (D.M. 09/02/87 relating to the denomination of controlled origin - D.O.C. Unabridged text taken from the definition of master tasters, March 1976).
A BIT OF HISTORY

No documents have been found which attest for sure, how and when Traditional Balsamic Vinegar originated. Similar products, musts and different vinegar mixes, were consumed in various ways in the civilisations of the early Middle East, ancient Greece and imperial Rome. References have been found of the use of sweet and sour vinegar throughout the centuries; it is repeatedly mentioned in ancient literature alongside historical events and personages.

With the passing of time its bibliography spirals around Ferrara and Reggio Emilia to finally come to a central point in the city of Modena. The Dukes of Este transferred their court here, from Ferrara, in 1598, and the earliest documents with precise and detailed information mention of Balsamic vinegar date from this period.

![View of the Ducal Palace of Modena in an engraving of 1791](image)

So it seems that the dukes first sampled this local product, which being mature and appreciated must have already been around for some time, to then make it themselves. The histories of Balsamic Vinegar and the city of Modena have continued on together ever since. Balsamic Vinegar thus
became distinctive, strongly traditional, a precious treasure no longer the result of accidental techniques, but of careful systematic operations. The French, under Napoleon Bonaparte, occupied Modena, in 1796, pulling down the Ducal vinegar lofts and selling off the casks to the wealthiest families in the city. This thoughtless division led to, by kindling a sense of prestige, the distribution of balsamic vinegar to various houses in Modena. Even after 1815, the Ducal vinegar lofts had only been partially rebuilt. There is plenty of documentation on Balsamic Vinegar in the following years; the figure of Duke Francesco IV stands out in this period, a diligent appreciator of the vinegar. Even King Victor Emanuel II, welcomed in Modena on 4th May 1859, was enraptured by the “black jewel” found in the lofts of the Ducal Palace. He was so attracted that he ordered the best casks to be transferred to the royal castle of Moncalieri in Piedmont. We have no further news of those barrels. The following year, the only coincidence, the expert oenologist Ottavio Ottavi asked Francesco Aggazzotti for information, in the shadow of the Ghirlandina bell tower, on how to run a vinegar loft (which lets us assume that the famous vinegar of Modena was in decline in this new environment). Taking his starting point from a manuscript by an anonymous 18th century author, Aggazzotti replied in a letter which became, in practice, the methodological basis for the production of Traditional Balsamic Vinegar of Modena.
THE PRODUCTION

As already said, Traditional Balsamic Vinegar of Modena derives from the fermentation of boiled must by particular families of acetobacter, very often organised in bacterial colonies called “mothers”, and of the subsequent slow maturation by enzymes over a long drawn out period, with mainly chemical-physical type transformations.

The must used to obtain Traditional Balsamic Vinegar of Modena comes from crushed “Trebbiano” and other traditional grapes of Modena, for example “Lambrusco”. The grapes are pressed and the separate uncooked grape juice or “must” is poured into open cooking vats. It is then boiled over an open fire where it is reduced and slowly concentrated. Boiling evaporates a variable quantity of water and devitalises the microbe load present at the start of the must causing it to lose its natural tendency to transform into wine. The cooked must is dark, distinctly tasty and perfumed, with an elevated sugary content. After boiling the must is cooled, decanted and placed in a series of casks of decreasing volume and different wood (oak, chestnut, mulberry, cherry, juniper, etc.). Each series of individual casks is called a “battery” (See Fig. 1), and is left in the lofts of houses where it is subjected to seasonal temperature variations. Figure 1:
There are no fixed rules concerning the number, capacity and sequence of casks or the type of wood; each producer is free to set up his own vinegar factory using casks and wood according to his own taste and the amount of vinegar he wishes to produce. All the same, a series or “battery” of casks must contain a minimum of three barrels: a large cask for the boiled must (where acetic transformation takes place), an intermediate cask where the fermented liquid is left to mature and a third, the smallest, where the mature liquid is left to mature. The present tendency is to use a series of casks of different wood with decreasing capacities, starting from the largest cask containing the young product and finishing with the smallest for holding the mature liquid. There are no rigid norms to be followed, but vinegar producers normally use a series of casks which decrease in volume circa 20-30 % one from another. For example in a series of five casks, if we assume that the largest is 60 litres the decreasing scale will be formed of casks: 50 - 40 - 30 and 20 litres capacity. If we increase the size of the first cask, we obtain a series of eight containers scaled as follows: 75 - 60 - 50 - 40 - 30 - 24 - 16 and 10 litres capacity. Generally speaking the initial casks are made of soft porous wood to favour the evaporation and acidification processes (for example chestnut), and the smaller casks, towards the end of the battery, are of harder wood for long term conservation of the mature product (for example oak and mulberry)\(^1\). Altering the type of wood used in the battery helps give the product its unique characteristics and traditional aroma and bouquet.

The microbiological activity which develops in the boiled must can be reassumed in the fermentation caused by yeast osmophilus yeast (Zygosaccharomyces, naturally present in must) in the acidification casks.

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where colonies of acetobacter simultaneously oxidise alcohol, as it forms, into acetic acid\(^2\). The sugars, alcohol, aldehydes and organic acids in the product are subjected, over time, to a series of radical transformations, leading to the refinement of both bouquet and flavour which become increasingly more intense, delicate and pleasant\(^3\).

The production follows seasonal changes: winter frost makes the balsam clear and the sugars are concentrated in the burning summer heat, microbiological activity takes place in the mild autumn and spring temperatures. Each winter, a small amount of product is withdrawn from the smallest cask, (on average 25-30% of total contents), to be put on the market. The liquid in the smallest casks is then topped up to a level, circa 2/3 of the total, with liquid from the next smallest bottle (this operation is commonly called “travaso” or decanting). This is, in turn, topped up with liquid from the third, and so on back to the largest cask which is topped up with that years boiled must (operation called topping up) (See Fig. 1).

The product begins to diversify: the largest barrels feature the youngest characteristics, whilst microbe activity decreases with the size of the casks being replaced by refinement and gradual maturation. The mature product is extracted annually, as described above, in winter during the decanting period, from the smallest cask; if we consider that a productive series has an average of seven barrels where the first cask of the series (the smallest) has a capacity of 10 litres, it thus contains circa 7.5 litres of product, each year the producer can withdraw a maximum 2.5/3 litres without completely upsetting the natural productive chain created by the decanting operations.

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\(^3\) Sacchetti, M., *Sull’aceto balsamico modenese*, Edagricole, Bologna 1970;
ABTM was a D.O.C. product (label of controlled origin) and was included, under Reg.(CE) 813/2000, in the European P.D.O. (Protected Origin Of Designation); two grades are available on the market: ABTM products which have been matured for at least 12 years, and ABTM Extra Vecchio products which have been matured for at least 25 years.

The product is supervised by an Agency for the Certification and can only be bottled, after passing a series of organoleptic tests, by a board of expert tasters, in 100 cc bottles, the only legally approved bottle to be used by all producers (See Fig.2). Each individual bottle is numbered and sealed, the Bottling Centre also keeps a sample from each batch of bottles as a guaranty of the quality of the corresponding bottle lot.

Figure 2: Exclusive packing, with all the elegance and refined creativity of Giugiaro Design, intended for the sale of ABTM. After rigorous examination, Traditional Balsamic Vinegar is sold on the market in unique 100cc containers made of transparent glass, with a the seal and band showing the Consortium serial number.

ABTM has gained a place, in every respect, in the Italian agricultural-alimentary market sector: it is a unique very high quality product in its sector strictly tied to its territory of origin. Extension of its possible market
is restricted by the parallel characteristics of quality and high costs, it is thus aimed at a select public who appreciate good wines and cuisine, gastronomic shops, high level restaurants and wine cellars; it is sold all over the world and has the advantage of being easily conserved, without deterioration, in glass bottles.
ON THE TABLE AND IN THE KITCHEN

The fragrant perfume and taste of Traditional Balsamic Vinegar of Modena satisfies even the most discerning palates; it is used as a condiment to give the final touch to a very wide range of dishes, from the most refined and elaborate to the cheapest and simplest. It has been used for centuries in the cuisine of Modena with meats and boiled vegetables, best when still hot, and in all egg recipes. More recently “Tradizionale di Modena” has been used on raw and cooked fish and meat roasts or casseroles. Many famous chefs use it in very original dishes, from appetisers to desserts. Surprising results are obtained on ice cream and tropical fruit, strawberries and peaches. The territoriality and potentiality of the gastronomy of the province of Emilia is revealed by the combination of Traditional Balsamic Vinegar of Modena with flakes of Parmigiano Reggiano cheese, in the same way as Brittany oysters manifest their universality and right to occupy a very important position amongst the gastronomic products of the world. A spoonful of “Balsamico Tradizionale” makes an unusual and most original aperitif as well as help digestion at the end of a meal.